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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/757,913
Filing Date: January 10, 2001
Appellant(s): KALLIOKULJU ET AL.

Geza C. Ziegler, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 15, 2006 appealing from the Office action mailed November 25, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

There are no related appeals or interferences, as stated in the appeal brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claim 1-21 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Prior Art of Record

6,529,527	Chen et al.	3-2003
6,477,150	Maggenti et al.	11-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (US Pat No: US006529527B1) in view of Maggenti et al (US Pat No: US006477150B1), hereafter referred to as Chen and Maggenti, respectively.

1. With regards to claims 1 and 12, Chen teaches through Maggenti a method of relocating the header compression context in a packet network which transmits packets

having compressed headers, said method comprising: establishing a connection between a mobile terminal and a first network entity including storing context information used with compression and decompression of the headers of the packets at the mobile terminal and the first network entity; stopping the context information updating in the mobile terminal and in the first network entity; taking a snapshot of the compression and decompression context information in the first network entity including storing said context information snapshot in the first network entity; and changing the connection between the first network entity and the mobile terminal to a connection between the mobile terminal and a second network entity including transferring the content information snapshot stored by the first network entity to the second network entity which is stored by the second network entity as the context information of the second network entity and using the stored context information at the mobile terminal and the second network entity for compression and decompression of the headers of the packets

(Chen's design teaches wireless communication network that uses mobile (column 4, lines 15-28, Chen) and base stations (column 4, lines 54-67, Chen). The network within which these devices function in use compressed headers (column 3, line 3, Chen). In addition, Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column 5, lines 5-9, Chen). When such transitions in communication occur, the context information is transferred from the first base station to the second base station as claimed. Furthermore, the existence of context information is obvious since the context

information is basically state information in the header detailing whether or not the header is compressed or decompressed. Since Chen's design allows for header compression, it is obvious that such state information is present within Chen's design. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

2. With regards to claims 2 and 13, Chen teaches through Maggenti a method wherein: said context information updating is stopped by disabling the mobile terminal and the first network entity decompressors from sending acknowledgements to the compressor of the opposite side

(Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column 5, lines 5-9, Chen). When such transitions in communication occur, the context information is transferred from the first base station to the second base station. It is

inherent that when the context information is transferred from one base station to another, that the context information updating is stopped. It has to be stopped for the transition of base stations to occur. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

3. With regards to claims 3 and 14, Chen teaches through Maggenti a method wherein: said content information updating is stopped by stopping the mobile terminal to compress and transmit uplink data and stopping the first network entity to compress and transmit downlink data

(Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column 5, lines 5-9, Chen). When such transitions in communication occur, the context information is transferred from the first base station to the second base station. It is inherent that when the context information is transferred from one base station to

another, that the context information updating is stopped. It has to be stopped for the transition of base stations to occur. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

4. With regards to claims 4 and 15, Chen teaches through Maggenti a method wherein: said taking a snapshot of the compression and decompression context information in the first network entity is delayed until said transmitted uplink data and downlink data has been received and decompressed

(Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column 5, lines 5-9, Chen). When the context information in such situation is transferred from one base station to another, the claimed snapshot must be taken (otherwise known as simply copying the context information). In addition, it is inherent that such a snapshot only may be taken when all the data has been received as claimed. Without all the data

having been received, it is of no use to take a snapshot. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

5. With regards to claims 5 and 16, Chen teaches through Maggenti a method wherein: said context information updating is stopped by discarding in the first network entity compression/decompression acknowledgements from the mobile terminal

(Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column 5, lines 5-9, Chen). When such transitions in communication occur, the context information is transferred from the first base station to the second base station. It is inherent that when the context information is transferred from one base station to another, that the context information updating is stopped. It has to be stopped for the transition of base stations to occur. To stop the updating between the network entities claimed, it is inherent that stopping their communication (stopping their

acknowledgements is the same as stopping communication in network protocols since for communications to proceed in networks, acknowledgements must be received and sent by participating network entities) is required. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

6. With regards to claims 6 and 17, Chen teaches through Maggenti a method wherein: said context information updating is stopped by disabling in the first network entity to send compression/decompression acknowledgements to the mobile terminal

(Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column 5, lines 5-9, Chen). When such transitions in communication occur, the context information is transferred from the first base station to the second base station. It is inherent that when the context information is transferred from one base station to another, that the context information updating is stopped. It has to be stopped for the

transition of base stations to occur. To stop the updating between the network entities claimed, it is inherent that stopping their communication (stopping their acknowledgements is the same as stopping communication in network protocols since for communications to proceed in networks, acknowledgements must be received and sent by participating network entities) is required. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

7. With regards to claims 7 and 18, Chen teaches through Maggenti a method wherein: sending a context update request from the first network entity to the second network entity, in response to a detection of a context update request sent by the mobile terminal in the first network entity; and sending the first packet from the second network entity to the mobile terminal as a packet containing said context update request

(Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column

5, lines 5-9, Chen). Since such transitions in communication occur in Chen's design, means by which to perform the claimed steps must be present within Chen's design. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

8. With regards to claims 8 and 19, Chen teaches through Maggenti a method wherein: sending a context update request from the first network entity to the second network entity, in response to a detection of out-of-synchronism of the context information in the first network entity; and sending the first packet from the second network entity to the mobile terminal as a packet containing said context update request

(Chen's design allows for synchronization and resynchronization (column 5, lines 19-58, Chen), hence means for out-of-synchronization must be present. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

9. With regards to claims 9 and 20, Chen teaches through Maggenti a method wherein: transferring the context information snapshot stored by the first network entity to the second network entity before changing the connection between the first network entity and the mobile terminal to a connection between the mobile terminal and a second network entity

(Chen's design allows for the mobile station (such as a mobile phone) to transition its communication from a first base station to a second base station (column 5, lines 5-9, Chen). When the context information in such situation is transferred from one base station to another, the claimed snapshot must be taken (otherwise known as simply copying the context information). In addition, it is inherent that such a snapshot only may be taken when all the data has been received as claimed. Without all the data having been received, it is of no use to take a snapshot. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

10. With regards to claims 10 and 21, Chen teaches through Maggenti a method wherein: said method is used in accordance with Robust Header Compression (ROHC) implemented in a UMTS system

(Chen's design allows for mobile devices such as PDAs and mobile phones (column 4, lines 15-28, Chen). In addition, no limitation is made on protocols, in fact, any protocols that allow for the spirit of the design to remain intact is acceptable (column 11, lines 29-35, Chen). Since ROHC and UMTS are standards used by mobile devices such as PDAs and mobile phones and such devices are permissible within Chen's design, they are permissible within Chen's design. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design

also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

11. With regards to claim 11, Chen teaches through Maggenti a method wherein: performing said relocation overlapping with serving radio network subsystem (SRNS) relocation

(Chen's design allows for mobile devices such as PDAs and mobile phones (column 4, lines 15-28, Chen) (both of which use radio signals). In addition, no limitation is made on protocols, in fact, any protocols that allow for the spirit of the design to remain intact is acceptable (column 11, lines 29-35, Chen). Since SRNS is a standard used by mobile devices such as PDAs and mobile phones and such devices are permissible within Chen's design, they are permissible within Chen's design. However, Chen's design does not disclose ending the transmission of the context header.

Maggenti also teaches a wireless communication network (Figure 2, Maggenti). The design teaches that header compression means are present. In addition the design also teaches that the header field can be transmitted once and never again if the header fields remain constant over time (column 23, lines 8-46, Maggenti).

Therefore, it would have been obvious to one skilled in the art, during the time of the invention, to have combined the teachings of Chen with those of Maggenti, to provide a wireless network featuring mobile devices and base stations (Figure 2, Maggenti).

(10) Response to Arguments

The applicant presents 12 separate arguments; they are listed below (with indicators to reflect the type of claim the arguments pertain to) along with the examiner's responses.

Argument (a1) (independent claims): Applicant argues that neither prior arts teaches the use of "context information." The applicant suggests that no mention is made in either prior art of the trait "context information," much less any method of updating context information between header compression and decompression. Chen teaches a method and apparatus to reduce transmission delay in a wireless communication. The design allows for header compression and decompression. The examiner's argument has been that packets are transferred from one base station to another hence; state information indicating whether the packet header is compressed or decompressed obviously must be present. If they weren't, the receiving base station would not know how to properly handle the packet header since it wouldn't know if the header were compressed or decompressed. For this reason, when packets are sent, the so called "context information" must be updated accordingly within the header. Flag information within packet headers is known in the art to indicate the status of certain features or

functions. Hence, such flag information is equivalent to "context information." In addition, it is unclear as to what "context information" is. "Context information" is not a common phrase within the networking art. In the arguments, the applicant states that "context information" comprises various static and dynamic data defining the operation of the compressor and the decompressor. Then, in the specifications (page 2) the applicant clearly indicates that "context information" is state information. By being state information, the examiner's interpretation of the claimed "context information," as being equivalent to a compression flag is appropriate since flags indicate the header as being compressed or decompressed. Furthermore, the flag values can remain constant or can change (it all depends on how they are changed/updated) hence, they are also static and dynamic as argued by the applicant.

Argument (a2) (independent claims): Applicant argues that neither prior arts teach a skilled man to first stop the context information updating in the mobile terminal in the first network entity and then take a snapshot of the old compressor and the decompressor context information and deliver the packet with the context information. The examiner argues that Chen teaches that the packet with its header (context information is part of the header) is sent from one base station to another. It is inherent that information updating of any type within a packet must be stopped prior to sending the packets. If packets are not stopped, they cannot have information (such as flags within the headers) changed within them. In addition, Chen also teaches the use of buffers to store packets if needed prior to sending out the packets. This further

indicates that packets (including header information, such as "context information") is stopped prior to being sent out.

Argument (b) (dependent claims): Applicant argues that neither prior arts teach the claimed trait of stopping the context information updating by disabling the sending of acknowledgments. The examiner contends that the Maggenti prior art teaches (column 23, lines 8-46) that header information can be sent once and never again. Acknowledgements are just a simple form of packets and all packets have headers. Acknowledgements are common in certain protocols such as TCP, which is used by Maggenti (summary, 2nd paragraph).

Argument (c) (dependent claims): Applicant argues that neither prior arts teach the claimed trait of stopping the context information updating by stopping the mobile terminal and first network entity compression and transmission. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The examiner contends that the Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. As for the claimed trait, the examiner reads it at as being inherent. The claimed trait states that the device stops updating the context information by stopping the header compression and stopping the sending of the packet. If the compression is not performed and the packet

is not sent, it is clear that the context information (flag) would not be updated, as claimed.

Argument (d) (dependent claims): Applicant argues the trait of delaying the taking of a snapshot until the data has been received and decompressed. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. The examiner's arguments have been that when context information is transferred from one base station to another, the claimed snapshot (copying of context information) must be taken. It is inherent that a snapshot can only be taken when all the data has been received as claimed. Otherwise, the snapshot would be useless.

Argument (e) (dependent claims): Applicant argues that context information updating is stopped by discarding acknowledgements from the mobile terminal. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. The examiner's argument has been that stopping communications is equivalent to stopping acknowledgements since network protocols require acknowledgements be sent and received to maintain communications (TCP at

least and Maggenti allows for TCP). When communication ceases, packets are not sent and hence header compression information need not be updated.

Argument (f) (dependent claims): Applicant argues that context information updating is stopped by discarding acknowledgements to the mobile terminal. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. The examiner's argument has been that stopping communications is equivalent to stopping acknowledgements since network protocols require acknowledgements be sent and received to maintain communications (TCP at least and Maggenti allows for TCP). When communication ceases, packets are not sent and hence header compression information need not be updated.

Argument (g) (dependent claims): Applicant argues the trait of sending a context update request in response to a request for such. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The examiner contends that the Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. Chen's design allows for data transfer from one node to another. When a base station receives a request for data, the base station will send the applicable packets to the requesting base station. When the

"hosting" base station receives the request, context information must be updated (since the header is being compressed).

Argument (h) (dependent claims): Applicant argues the trait of sending a context update request in response to detecting out-of-synchronization. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. Chen however discloses how synchronization and resynchronization means are present (column 5, lines 19-58, Chen).

Argument (i) (dependent claims): Applicant argues the trait of sending the context information snapshot before changing the connection. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. The Chen prior art teaches how a mobile device can connect to different base stations (so the mobile devices can switch connections to different base stations) (see Figure 1, elements 12c, 14b and 14c). When changing base stations, connection information is sent (connection requests) from the mobile station to the base stations and with such requests, the packets contain context information, which must be updated.

Argument (j) (dependent claims): Applicant argues the trait of ROHC implement in UMTS system. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. The examiner's argument is that ROHC and UMTS are standards used by mobile devices such as PDAs and mobile phones. Chen's design allows for such mobile devices and sets no limitations on protocols. In fact, Chen states that numerous alterations may be made to the embodiments without departing from the spirit or scope of the invention. Hence, ROHC and UMTS are acceptable, since they are standards in the mobile community.

Argument (k) (dependent claims): Applicant argues the trait of performing said relocation overlapping with SRNS relocation. Applicant states that the examiner admits Chen does not teach such a feature and Maggenti's disclosure of sending header information once is the sole reasoning provided. The Maggenti art was not used as an explanation in this claim but was provided to the applicant as only the motivation for the 103 rejection. The Chen prior art teaches how a mobile device can connect to different base stations (so the mobile devices can switch connections to different base stations) (see Figure 1, elements 12c, 14b and 14c). The examiner's argument is that SRNS is a standard used by mobile devices such as PDAs and mobile phones. Chen's design

allows for such mobile devices and sets no limitations on protocols. In fact, Chen states that numerous alterations may be made to the embodiments without departing from the spirit or scope of the invention. Hence, SRNS is acceptable, since it is a standard in the mobile community.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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August 4, 2006

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